REMARKS

Claims 1-8, 13, 18, and 26-31 have been canceled. Claims 9, 11, 12, 16, 19, 20, 22, and 23 have been amended to comply with the election of Group IX for further prosecution. Applicants note these amendments merely cancel claims not falling within Group I-VIII, and X-XXI and amend the remaining claims to remove subject matter falling outside the scope of the above-mentioned Groups defined by the Examiner. Applicants note that several SEQ ID NO's, originally restricted by the Examiner into groups other than Group IX, have been left in the claims since Applicants believe these groups should be rejoined with Group IX. Supporting arguments for this belief are given below. Accordingly, Applicants contend no new matter has been entered into the Application.

I. Group Election

In response to the Restriction Requirement dated June 13, 2002, Applicants provisionally elect to prosecute Group IX with traverse. Applicants note this elections is made solely in the interest of expediting prosecution of this Application and Applicants reserve the right to traverse division between Groups I-VIII and XI-XXI and division between species in subsequent divisional filings. Applicants also reserve the right to file divisional Applications relating to these claims without the need to file a terminal disclaimer.

The Examiner has restricted the instant Application into 21 Groups relating to nucleic acid molecules, proteins, antibodies, mimetopes, non-proteinaceous epitopes and therapeutic compositions comprising said molecules, all further relating to either the 109 kDa, 98 kDa, 70 kDa or the 60 kDa protein from either *Dermatophagoides farinae* (Derf) or *Dermatophagoides pteronyssinus* (Derp). Group IX, consisting of claims 9-12, 14-17, and 19-24, is drawn to the *Dermatophagoides farinae* 98 kDa protein and methods of using such proteins to desensitize a host animal. Derf 98 kDa amino acid sequences of Group IX claims include SEQ ID NO:1, SEQ ID NO's 3-7, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:18, and SEQ ID NO:21. Nucleic acid sequences encoding the proteins referenced in Group IX include SEQ ID NO:14, SEQ ID NO:17, SEQ ID NO:20, and SEQ ID NO:25-28. A chart

relating the relevant SEQ ID NO's (SIN's) to the relevant molecules is shown below for the Examiner's convenience.

SEQ ID NO	Type	Molecule	Description
Dermatophagoides farinae molecules			
1	Protein		terminal peptide
3	Protein		internal peptide
4	Protein		internal peptide
5	Protein		internal peptide
6	Protein		internal peptide
7	Protein		internal peptide
10	Protein		internal peptide
11	Protein		internal peptide
13	Protein		internal peptide
14	Nucleic Acid	nDerf98_1752	full-length cDNA
15	Protein	PDerf98_555	translation of ORF in SIN 14
16	Nucleic Acid		complement of SIN 14
17	Nucleic Acid	nDerf98_1665	coding sequence for PDerf98_555
18	Protein	PDerf98_555	
19	Nucleic Acid		complement of SIN 17
20	Nucleic Acid	nDerf98_1608	coding sequence for pDerf98_536
21	Protein	PDerf98_536	mature protein; signal sequence removed
22	Nucleic Acid		complement of SIN 20
24	Protein		terminal peptide
Dermatophagoides pteronyssinus molecules			
34	Nucleic Acid	nDerp98_1621	full-length cDNA
35	Protein	PDerp98_509	translation of ORF in SIN 34
36	Nucleic Acid		complement of SIN 34
37	Nucleic Acid	nDerp98_1527	coding sequence for Pderp98_509
38	Protein	Pderp98_509	
39	Nucleic Acid		complement of SIN 37
40	Nucleic Acid	nDerp98_1470	coding sequence for pDerp98_490
41	Protein	PDerp98_490	mature protein; signal sequence removed
42	Nucleic Acid		complement of SIN 40

II. Restriction Between Groups IX, X and XI

The Examiner has restricted proteins relating to the *Dermatophagoides farinae* 98 kDA into Groups XI, X and XI. Applicants draw the Examiners attention to the fact the proteins claimed by these Groups are identical over their full-length. Although the claims refer to the

complementary strand of the encoding nucleic acid molecule, to simplify the discussion, Applicants have drafted their arguments with reference to the coding strand and amino acid sequences of the 98 kDa protein.

Since SEQ ID NO:17 represents the coding region of SEQ ID NO:14 (the full length cDNA), then by definition the protein encoded by these two sequences (SEQ ID NO's 18 and 15 respectively) are identical. Likewise, SEQ ID NO:20 represents an even smaller fragment of both SEQ ID NO's 14 and 17 in that it encodes a 98 kDA protein in which the signal sequence has been removed. Therefore, the proteins represented by SEQ ID NO's 15, 18 and 21 are identical in sequence over their length; SEQ ID NO:21 differs from the other two sequences only in that it is a shorter sequence since the signal sequence has been removed. In addition, Applicants note that many of the smaller peptides, which are represented by SEQ ID NO:1, SEQ ID NO's 3-7, SEQ ID NO:10, SEQ ID NO:11, and SEQ ID NO:13, were not included in the Examiners grouping. These SEQ ID NO's represent the sequence of peptides derived from Derf 98 kDa protein and Applicants therefore believe they should be included with the sequences of rejoined Groups IX-XI. For the Examiners convenience, Applicants have included below an alignment (constructed using MultiAlin) clearly illustrating the relationship between SEQ ID NO' 15, 18, 21 and the sequences of the short peptides discussed above.

```
      1
SIN15 MKTIYAILSI MACIGLMNAS IKRDHNDYSK NPMRIVCYVG TWSVYHKVDP
SIN18 MKTIYAILSI MACIGLMNAS IKRDHNDYSK NPMRIVCYVG TWSVYHKVDP
SIN21 .......... .........S IKRDHNDYSK NPMRIVCYVG TWSVYHKVDP
                  SIN1     S IKRDHNDYSK NPM

      51
SIN15 YTIEDIDPFK CTHLMYGFAK IDEYKYTIQV FDPYQDDNIN SWEKRGYERF
SIN18 YTIEDIDPFK CTHLMYGFAK IDEYKYTIQV FDPYQDDNHN SWEKRGYERF
SIN21 YTIEDIDPFK CTHLMYGFAK IDEYKYTIQV FDPYQDDNHN SWEKRGYERF

      101
SIN15 NNLRLKNPEL TTMISLGGWY EGSEKYSDMA ANPTYRQQFI QSVLDFLQEY
SIN18 NNLRLKNPEL TTMISLGGWY EGSEKYSDMA ANPTYRQQFI QSVLDFLQEY
SIN21 NNLRLKNPEL TTMISLGGWY EGSEKYSDMA ANPTYRQQFI QSVLDFLQEY

      151
SIN15 KFDGLDLDWE YPGSRLGNPK IDKQNYLALV RELKDAFEPH GYLLTAAVSP
SIN18 KFDGLDLDWE YPGSRLGNPK IDKQNYLALV RELKDAFEPH GYLLTAAVSP
SIN21 KFDGLDLDWE YPGSRLGNPK IDKQNYLALV RELKDAFEPH GYLLTAAVSP
                          SIN7 DKQNYLALV RELK
                                          SIN6 DAFEPH GYLLTAAVSP
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      201
SIN15 GKDKIDRAYD IKELNKLFDW MNVMTYDYHG GWENFYGHNA PLYKRPDETD
SIN18 GKDKIDRAYD IKELNKLFDW MNVMTYDYHG GWENFYGHNA PLYKRPDETD
SIN21 GKDKIDRAYD IKELNKLFDW MNVMTYDYHG GWENFYGHNA PLYKRPDETD
SIN6  GK

      251
SIN15 ELHTYFNVNY TMIYYLNNGA TRDKLVMGVP FYGRAWSIED RSKLKLGDPA
SIN18 ELHTYFNVNY TMHYYLNNGA TRDKLVMGVP FYGRAWSIED RSKLKLGDPA
SIN21 ELHTYFNVNY TMIYYLNNGA TRDKLVMGVP FYGRAWSIED RSKLKLGDPA
                          SIN10 DKLVMGVP FYGRANSIE
                                                  SIN4 DPA
                                                 SIN13 DPA

      301
SIN15 KGMSPPGFIS GEEGVLSYIE LCQLFQKEEW HIQYDEYYNA PYGYNDKIWV
SIN18 KGMSPPGFIS GEEGVLSYIE LCQLFQKEEW HIQYDEYYNA PYGYNDKIWV
SIN21 KGMSPPGFIS GEEGVLSYIE LCQLFQKEEW HIQYDEYYNA PYGYNDKIWV
SIN4  KGMSPPGFIV GEEGVLS
SIN13 KGMSPPGFIV GEEGVLS

      351
SIN15 GYDDLASISC KLAFLKELGV SGVMVWSLEN DDFKGHCGPK NPLLNKVHNM
SIN18 GYDDLASISC KLAFLKELGV SGVMVWSLEN DDFKGHCGPK NPLLNKVHNM
SIN21 GYDDLASISC KLAFLKELGV SGVMVWSLEN DDFKGHCGPK NPLLNKVHNM

      401
SIN15 INGDEKNSFE CILGPSTTTP TPTTTPTTPT TTPTTPSPTT PTTTPSPTTP
SIN18 INGDEKNSFE CILGPSTTTP TPTTTPTTPT TTPTTPSPTT PTTTPSPTTP
SIN21 INGDEKNSFE CILGPSTTTP TPTTTPTTPT TTPTTPSPTT PTTTPSPTTP
    SIN5 DEKNSFE CILGP

      451
SIN15 TTTPSPTTPT TTPSPTTPTP TTPTPAPTTS TPSPTTTEHT SETPKYTTYV
SIN18 TTTPSPTTPT TTPSPTTPTP TTPTPAPTTS TPSPTTTEHT SETPKYTTYV
SIN21 TTTPSPTTPT TTPSPTTPTP TTPTPAPTTS TPSPTTTEHT SETPKYTTYV


      501
SIN15 DGHLIKCYKE GDIPHPTNIH KYLVCEFVNG GWWVHIMPCP PGTIWCQEKL
SIN18 DGHLIKCYKE GDIPHPTNIH KYLVCEFVNG GWWVHIMPCP PGTIWCQEKL
SIN21 DGHLIKCYKE GDIPHPTNIH KYLVCEFVNG GWWVHIMPCP PGTIWCQEKL
              SIN3 DIPHPTNIH KYLVCESVNG G
             SIN11 DIPHPTNIH KYLVCESVNG

      551
SIN15 TCIGE
SIN18 TCIGE
SIN21 TCIGE
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In view of the fact that the proteins claimed by Groups IX, X and XI are identical, Applicants respectfully request rejoinder of these Groups. In addition, in view of the fact that SEQ ID NO:1, SEQ ID NO's 3-7, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:13, and SEQ ID

NO:24 represent sequences obtained from the Derf98 kDa protein (SEQ ID NO:18) and are clearly identical to sequences in this protein, Applicants also request these SEQ ID NO's be included in the newly rejoined Group.

III. Restriction Between Groups IX, X, XI and Groups XII, XIII and XIV.

The M.P.E.P § 803.04 states that although independent and distinct inventions should normally be restricted by an Examiner, in the case of nucleotide sequences, the requirements of 37 C.F.R. §1.141 are partially waived and a reasonable number of nucleotide sequences that encode different proteins can be examined together. It has been determined that normally ten sequences constitute a reasonable number for examination purposes. Groups IX-XIV describe two closely related proteins, *i.e.* the *Dermatophagoides farinae* and *Dermatophagoides pteronyssinus* 98 kDa proteins. These two proteins are approximately 88% identical at the nucleotide level and approximately 77% identical at the amino acid level as determined using SEQ ID NO's 17 and 39 (nucleotide) and SEQ ID NO's 18 and 38 (amino acid) and the NIH BLAST program set with default parameters. Since these two proteins are so closely related in sequence, Applicants respectfully submit that a thorough search for the subject matter of Groups IX-XI would be sufficient to enable the examination of the claims of Groups XII-XIV without constituting an undue burden for the Examiner. Applicants note that, as described above for Groups IX-XI, many of the sequences within Groups XII-XIV are merely fragments of larger sequences (e.g. SEQ ID NO:'s 34, 37 and 40) and the sequences of these fragments are identical, over their length, with the sequence of the parent molecule. These fragments may be considered to encode the same protein as the parent and therefor would not constitute an independent invention requiring an independent search. M.P.E.P § 803.04 Therefore, due to the overlapping and identical nature of the fragments, the number of distinct sequences that must be searched and examined would be reduced. In light of the above, Applicants respectfully request rejoinder of Groups IX-XI with Groups XII-XIV.

CONCLUSION

In view of the foregoing arguments, Applicants respectfully request that the Examiner withdraw the restrictions between Groups IX-XIV. Applicants reserve the right to traverse restrictions between any of the Groups in subsequent divisional applications. Applicants also reserve the right to file divisional applications relating to any and all of these Groups without the necessity of filing a terminal disclaimer.

In any event, if the elected claims of Group IX are allowable, Applicants reserve their right to amend any related claims to be commensurate in scope with the product claims of Group IX, and to request that such claims be rejoined and examined for patentability. *In re Brouwer*, 37 USPQ2d 1663 (Fed. Cir. 1996); *In re Ochiai*, 37 USPQ2d 1127 (Fed. Cir. 1995). Furthermore, if the elected claims of Groups IX-XIV are rejoined and found allowable, Applicants reserve their right to amend any related claims to be commensurate in scope with the product claims of Groups IX-XIV, and to request that such claims be rejoined and examined for patentability.

If any questions remain regarding this Application, the Examiner is invited to contact the undersigned at (970) 493-7272 ext. 4174.

Respectfully submitted,

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